

# H-89, Dihydrochloride

5.19 mg

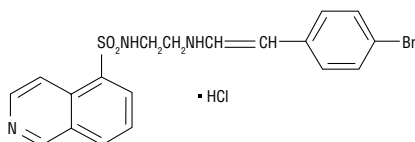
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**For Research Use Only. Not For Use In Diagnostic Procedures.**

**Background:** H-89 is a potent selective inhibitor of cAMP dependent protein kinase (PKA). The *in vitro* IC<sub>50</sub> of H-89 for PKA is approximately 50 nM and *in vivo* the inhibitory effect on PKA substrate phosphorylation and related cellular functions range from 10 M to 30 M (1,2). In addition to PKA, H-89 also exhibits a moderate inhibitory effect on PKG and PKC, with IC<sub>50</sub> in the 500 nM range (1,3). The inhibitory effect of H-89 is due to its competitive binding to the ATP pocket on the kinase catalytic subunit (4).

**Molecular Formula:** C<sub>20</sub>H<sub>20</sub>BrN<sub>3</sub>O<sub>2</sub>S•<sub>2</sub>HCl

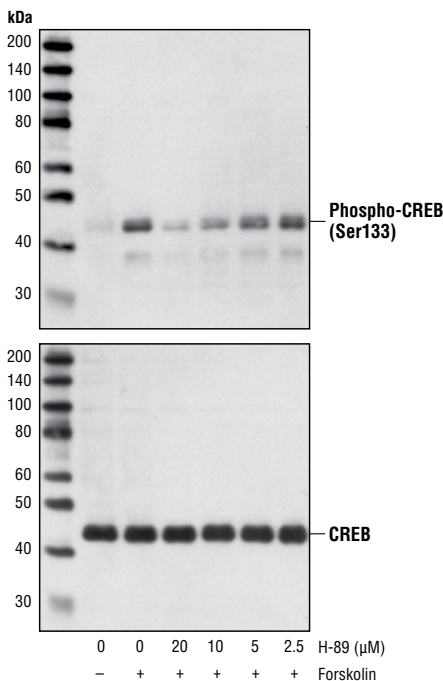


**Molecular Weight:** 519 g/mol

**Directions for Use:** H-89 is supplied as 5.19 mg powder. Store at or below -20°C. Before usage, dissolve powder in 0.5 ml DMSO to make 20 mM H-89. For working concentrations of 10 M-20 M, dilute DMSO stock 1:2000 to 1:1000. Treat cells with the desired concentration for 30 minutes.

**Background References:**

- (1) Chijiwa, T. et al. (1990) *J Biol Chem* 265, 5267-72.
- (2) Meja, K.K. et al. (2004) *J Pharmacol Exp Ther* 309, 833-44.
- (3) Johannes, F.J. et al. (1995) *Eur J Biochem* 227, 303-7.
- (4) Engh, R.A. et al. (1996) *J Biol Chem* 271, 26157-64.



Western blot analysis of extracts from SKNMC cells, untreated or treated with indicated concentrations of H-89 for 30 minutes, followed by stimulation with 30 μM Forskolin for 10 minutes. The phosphorylation of CREB was detected using Phospho-CREB (Ser133) (87G3) Rabbit mAb #9198 (upper), CREB (48H2) Rabbit mAb #9197 was used as a loading control (lower). H-89 inhibition of Forskolin induced PKA phosphorylation on CREB at Ser133 is shown.

**Storage:** Store lyophilized or in solution at -20°C, desiccated. Protect from light. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 3 months to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.

**Background References:**

- (1) Chijiwa, T. et al. (1990) *J Biol Chem* 265, 5267-72.
- (2) Meja, K.K. et al. (2004) *J Pharmacol Exp Ther* 309, 833-44.
- (3) Johannes, F.J. et al. (1995) *Eur J Biochem* 227, 303-7.
- (4) Engh, R.A. et al. (1996) *J Biol Chem* 271, 26157-64.